**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **LB207/D01 comment resolution -- Vancouver -- CIDs 188, 236, 404, 659, 987, 993, 1168, 1169, 1335, 1348, 1357, 1403** |
| Date Submitted | Nov 13, 2024 |
| Sources | Alex Krebs (Apple)  krebs @ apple.com |
| Re: |  |
| Abstract |  |
| Purpose | To propose resolution for MMS related comments for “P802.15.4ab™/D (pre-ballot) C Draft Standard for Low-Rate Wireless Networks”. |
| Notice | This document does not represent the agreed views of the IEEE 802.15 Working Group or IEEE 802.15.4ab Task Group. It represents only the views of the participants listed in the “Sources” field above.It is offered as a basis for discussion and is not binding on the contributing individuals. The material in this document is subject to change in form and content after further study. The contributors reserve the right to add, amend or withdraw material contained herein. |

# CID 1335

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| B. Rolfe | 1335 | 56 | 10.38.3.1 | 31 | " may be changed by the higher layer " indicates a that his is a statement of possibility,not a permissible action defined in this standard. | Change "may be changed" to "are set by" |

Discussion:

Proposed resolution: Accept

Disposition detail:

# CID 1348 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Pooria Pakrooh | 1348 | 57 | 10.38.3.3 | 17 | Which slots specifically? Initiator wants to go back to Tx mode. Specify how long it has to be in Rx. | Specify the range of slots where initiator shall listen for adv-resp. |

Discussion: Agree with comment. This is not the subsection for contention based initialization, therefore there is only one slot in which ADV-RESP could be received.

Proposed resolution: Revised.

Disposition detail: Change the sentence to "The initiator shall listen for an incoming advertising response in the initialization slot directly following the Advertising Poll Compact frame."

# CID 404 (Rejected)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Tero Kivinen | 404 | 58 | 10.38.3.2 | 4 | It seems that each different message control field values are different messages when the text is full of "Start o Ranging Compact frame with the Message Control field equal to 0x00" texts. | Combine Compact Frame id and message control field values to one message id and use that. |

Discussion: Duplicate.

Proposed resolution: Rejected.

Disposition detail: See CID #472 in 15-24/497r1

# CID 236 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Li-Hsiang Sun | 236 | 58 | 10.38.3.2 | 11 | The sequence of REPORTs in FIG 26~31,33 seems inconsistent with what is defined in 10.38.6 | fix the figures to be consistent with Fig 37 |

Discussion: Agree with comment, the order of the report packets as shown in the figures (initiator first, responder second) is not allowed.

Proposed resolution: Revised.

Disposition detail: Change the figures (technical editor has the files) such that responder is sending first, initiator is sending second, i.e.:

Old:

A white rectangular sign with black text

Description automatically generated

New:

A white rectangular sign with black text

Description automatically generated

# CID 993 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Carlos Aldana | 993 | 60 | 10.38.3.4 | 9 | What if there is no subset? Can you write expected behavior? | As in comment |

Discussion: If the initiator receives an ADV-RESP packet from the responder that means that at least one channel (i.e. the initialization channel) is the subset. Otherwise the initiator would never receive an ADV-RESP packet hence never start a ranging session.

Proposed resolution: Revised.

Disposition detail: Insert a note after this sentence: "Note that at least one mutually supported channel between initiator and responder is required to start a ranging session."

# CID 1168 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Billy Verso | 1168 | 67 | 10.38.4.1 | 35 | The phrase "carrier coherent transmissions" appears six times, in the text. This should be defined. Actually the phrasing is the same in all six cases "serves to enable carrier coherent transmissions" the meaning of this phrase should be explained. | Add an appropriate definition for "carrier coherent transmissions" into clause 3.1 and since I expect this is one of the key feature requirements of NBA UWB MMS add some paragraph(s) into the introduction 10.38.1 to explain what it is. Also, consider whether "serves to enable carrier coherent transmissions" is a correct phrase and either explain its meaning or revise if necessary and explain the revised phrasing. |

Discussion: A revised definition of "carrier coherent transmission" has been added as a result of CID #15. We can reference this resolution. Also we can reword the "serves" sentence as the proposed change suggested.

Proposed resolution: Revised.

Disposition detail:

Change text from

"The poll Compact frame (10.38.9.7) serves to enable carrier coherent transmissions from the initiator to the responder device."

to

"The poll Compact frame (10.38.9.7) is used by the responder to estimate the CFO of the initiator for the initiator's subsequent MMS UWB transmissions."

Similarly, on line 44 change text from

The response Compact frame serves to enable carrier coherent transmissions from the responder to the

initiator device.

to

"The response Compact frame is used by the initiator to estimate the CFO of the responder for the responder's subsequent MMS UWB transmissions."

Similarly, on page 98 line 14 change text from

"The One-to-one Response Compact frame is sent by the responder during the control phase. This serves to enable carrier coherent transmissions from the responder to the initiator device, and may also convey short term operating parameter request(s)."

to

"The One-to-one Response Compact frame is sent by the responder during the control phase. This frame is used by the initiator to estimate the CFO of the responder and may also convey short term operating parameter request(s)."

Similarly, on page 102 line 16 change text from

The One-to-many Poll Compact frame is sent by the initiator during the control phase in one-to-many MMS ranging, this serves to enable carrier coherent transmissions from the initiator to the responder devices and may also convey short term operating parameters.

to

The One-to-many Poll Compact frame is sent by the initiator during the control phase in one-to-many MMS ranging. This frame is used by the initiator to estimate the CFO of the initiator and may also convey short term operating parameters.

Similarly, on page 108 line 17 change text from

This is the response sent by a responder during the control phase in one-to-many ranging, this serves to enable carrier coherent transmissions from the responder to the initiator device and may also convey short term operating parameters requests.

to

This is the response sent by a responder during the control phase in one-to-many ranging. This frame is used by the initiator to estimate the CFO of the responder and may also convey short term operating parameters requests.

# CID 1169 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Billy Verso | 1169 | 68 | 10.38.4.1 | 13 | "if either of following conditions is met" is a bit wordy, a simple "when" would suffice. | change to "when" |

Discussion: Agree with comment.

Proposed resolution: Revised.

Disposition detail: Simplify the sentence

An initiator shall discontinue the UWB MMS ranging round if either of following conditions is met: a channel access failure occurs on the attempt to transmit the poll Compact frame; or the initiator fails to

15 receive the response Compact frame at the expected time.

to

An initiator shall discontinue the UWB MMS ranging round if a channel access failure occurs on the attempt to transmit the poll Compact frame, or the initiator fails to receive the response Compact frame at the expected time.

# CID 1357 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Pooria Pakrooh | 1357 | 69 | 10.38.6 | 27 | "Reporting period" not "slot", as the report duration could span multiple slots. | As in the comment |

Discussion: Agree with comment.

Proposed resolution: Revised.

Disposition detail: Replace "slot." by "reporting period."

# CID 987 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Carlos Aldana | 987 | 72 | 10.38.7.4.2 | 2 | How does the initiator determine whether a channel is unavailable, unusable, or inefficient? Is it via passive scanning? If so, how long is the passive scanning duration? How accurate should this result be? What energy detect threshold should be used? All this should be specified to have predictable behavior. | Please clarify all the questions here. |

Discussion: Agree with comment in the sense that it is confusing that the reasoning for selecting or deselecting a NB channel for transmission is mentioned here. The reason/motivation is out of scope for the protocol definition, therefore we can simplify the sentence by removing the reasoning/motivation part.

Proposed resolution: Revised.

Disposition detail: Change

Where a subset or the entire set of the 250 O-QPSK channels is known to be unavailable, unusable, or

3 deemed inefficient to be used, the initiator may mark these channels as blocked by removing them from the

4 macMmsNbChannelAllowList.

to

The macMmsNbChannelAllowList sets the NB O-QPSK channels used by initiator and responders during an NBA-UWB MMS ranging session.

# CID 188, 1403 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Wenzheng Li | 188 | 72 | 10.38.7.4.2 | 4 | " When all 250 O-QPSK channels are marked as blocked, devices should not  engage in an MMS ranging session" If all NB channels are blocked, only NBA UWB MMS session should not be engaged | When all 250 O-QPSK channels are marked as blocked, devices should not engage in an NBA MMS ranging session |
| Alex Krebs | 1403 | 72 | 10.38.7.4.2 | 4 | The sentence "When all 250 O-QPSK channels are marked as blocked, devices should not 5 engage in an MMS ranging session." is not a good recommendation, as UWB-only MMS mode could still be used. | Remove the sentence, and add the following sentence instead in line 7 between "conflicting channels." and "The list":  When all 250 O-QPSK channels are marked as blocked, devices may use the UWB-driven MMS mode to engage in a ranging session. |

Discussion: Both comments and proposed changes aim to achieve the same goal, namely clarify that only NBA MMS but not UWB driven MMS would be blocked in case of no NB channels available. We can merge both proposed changes into one.

Proposed resolution: Revised.

Disposition detail: Remove the sentence, and add the following sentence instead in line 7 between "conflicting channels." and "The list":  
  
When all 250 O-QPSK channels are marked as blocked, devices cannot engage in a NBA-UWB MMS session but the UWB-driven MMS mode may be used instead.

# CID 659 (Revised)

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| **Name** | **Index #** | **Page** | **Sub-clause** | **Line #** | **Comment** | **Proposed Change** |
| Tero Kivinen | 659 | 125 | 10.38.10 | 1 | In the macMmsReportPhaseMode the description says that Value 14 selects xxx, but range does not allow value 14. | Remove description of value 14 or add 14 to range. |

Discussion: Agree with comment, but this has been resolved before in 15-24/555r2

Proposed resolution: Revised.

Disposition detail: As shown on page 3 in 15-24/555r2.